



(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
26 May 2005 (26.05.2005)

PCT

(10) International Publication Number:
WO 2005/047283 A1

(51) International Patent Classification⁷: C07D 471/04,
A61K 31/519, A61P 35/00

E-08008 Barcelona (ES). ADAN, Jaume [ES/ES]; Pujol,
28, E-08310 Mataro (ES). SOLER RIERA, Marta
[ES/ES]; Enrique Granados N° 43, Entlo. 2, E-08008
Barcelona (ES).

(21) International Application Number: PCT/EP2004/011549

(22) International Filing Date: 14 October 2004 (14.10.2004)

(25) Filing Language: German

(26) Publication Language: German

(30) Priority Data: 103 52 979.9 13 November 2003 (13.11.2003) DE

(71) Applicant (for all designated States except US): MERCK PATENT GMBH [DE/DE]; Frankfurter Strasse 250, 64293 Darmstadt (DE).

(72) Inventors; and

(75) Inventors/Applicants (for US only): HÖLZEMANN, Günter [DE/DE]; Gutenbergstrasse 6B, 64342 Seeheim-Jugenheim (DE). CRASSIER, Helene [FR/DE]; Soderstrasse 94, 64287 Darmstadt (DE). ACKERMANN, Karl-August [DE/DE]; Am Pfarrweiher 40, 64372 Ober-Ramstadt (DE). STÄHLE, Wolfgang [DE/DE]; Neuweg 14c, 55218 Ingelheim (DE). JONCZYK, Alfred [DE/DE]; Schepp Allee 57, 64295 Darmstadt (DE). RAUTENBERG, Wilfried [DE/DE]; Magdeburger Strasse 13, 64354 Reinheim (DE). MITJANS, Francesc [ES/ES]; Pujadas, 78 402a, E-08700 Igualada (ES). ROSELL-VIVES, Elisabet [ES/ES]; Enrique Granados, 43,

(74) Common Representative: MERCK PATENT GMBH; Frankfurter Strasse 250, 64293 Darmstadt (DE).

(81) Designated states (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

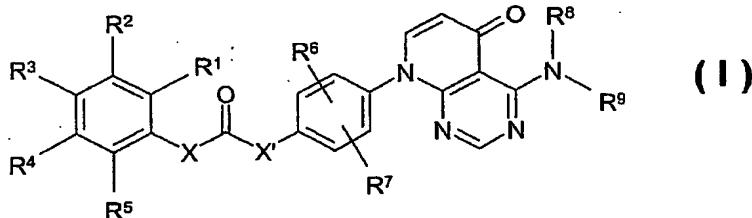
(84) Designated states (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

[continued overleaf]

(54) Title: PYRIDOPYRIMIDINONES



(57) Abstract: Compounds of the formula (I); in which R¹, R², R³, R⁴, R⁵, R⁶, R⁷, R⁸, R⁹, X and X' have the meanings indicated in Claim 1, are inhibitors of tyrosine kinases, in particular TIE-2, and Raf kinases and can be employed, inter alia, for the treatment of tumours.